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their homes and families to come to town near the hospital to await a tardy event. Now they remain contentedly at home until a gentle warning stirs them, when answering their call, a great white bird looms in sight and it is not long ere the patient has experienced her first air journey and the culmination of her expectations.

Even here we must revert to thrills

again. A young expectant mother, thirty miles distant and in her eighth month of pregnancy, became eclamptic and was rushed to the hospital. At the end of an hour there had been accomplished an air flight, a spinal anaesthesia, a Caesarian section,—and a young Oklahoman was given an incubator in which to finish the remainder of his nine months' incarceration.

# SIMPLIFIED METHOD FOR THE PREPARATION OF PROTEIN MILK

By Bessie Cutler, R.N., and Chester A. Stewart, M.D., Ph.D.

Minneapolis, Minnesota

PROTEIN milk (known as Albumin milk, Eweiss milk, Casein milk, and Finkelstein's milk) has long been considered a valuable food for infants who are suffering from fermentative types of diarrhoea and from various forms of malnutrition. There has always been considerable difficulty in preparing protein milk, since it requires a certain amount of skill and at best is a long, tedious process. Therefore, its use has been confined almost entirely to the institution where there are nurses specially trained to make infant feedings. Even those skilled in the preparation of protein milk experience occasional failures. Dr. C. A. Stewart. Assistant Professor of Pediatrics at the University of Minnesota, Minneapolis, has recently devised a simplified method and during the last eighteen months it has proven practical and effective. It is so simple that untrained workers and mothers have successfully directions. Following is a comparison

of the original method (Method I) for making protein milk with the simplified method (Method II):

#### METHOD I

Heat 1000 cc. of whole raw milk to 100°F. and stir in 10 cc. to 15 cc. of essence of pepsin or liquid rennet. Let it stand at 100°F, until it coagulates (about one-half hour) and forms a firm curd. Cut in squares with a knife and let it stand until the whey separates (about one-half hour). Hang the curd in a bag made of three or four thicknesses of gauze or of one thickness of cotton cloth and let it drain, from thirty minutes to one hour, or until all the whey is drained off. Usually 700 cc. of whey is thus obtained. Do not stir the curd or squeeze it while it is draining. Scrape the curd from the gauze into the strainer and with the aid of a wooden spoon, push it through a strainer from two to six times; 500 cc. of water and 500 cc. of buttermilk or skimmed lactic

acid milk <sup>1</sup> are added during the process. Beat with a dover egg beater. To sterilize protein milk, add one level tablespoon of wheat flour and make a smooth paste by first adding it to a few tablespoons of the protein milk, then the entire amount is added slowly. Boil in a saucepan over a low flame two minutes or more, as ordered. Cut back and forth constantly with a large wooden spoon while it is boiling. If any has boiled away, make the amount up to a quart by adding sterile water. The composition of this food is:

#### (Finkelstein and Meyer)

Fat	2.5%
Sugar	1.5%
Protein	3.0%
Salts	0.5%

One quart contains about 405 calories.

Sugar in the form of dextri maltose is usually ordered in protein milk as soon as the baby's condition will allow it. The desired amount of sugar is added to a pint of sterile water and is dissolved in it by heating. Cool before mixing with the curd.

#### METHOD II

Boil 1000 cc. or 1 quart of whole milk for two minutes, stirring constantly. Cool it to below 100°F. or about room temperature, and add 5-10 cc., or 1 teaspoon, of chemically pure lactic acid which precipitates the curd at once. Pour it into a fine wire strainer (or a bag made of several thicknesses of gauze) to drain off the whey which is thrown away. At least 700 cc. or one and one-half pints of whey should be

obtained. This takes only a minute. Add 500 cc., or a pint, of sterile water and 500 cc., or a pint, of buttermilk or skimmed lactic acid milk 1 to the curd. Beat with a dover egg beater for one minute. This method is advantageous because it is simpler than Method I, the curd is softer and does not have to go through the strainer; it saves several hours of time, and the final product is sterile if specially prepared skimmed lactic acid milk is added in place of commercial buttermilk. The composition is the same as that of the protein milk which is prepared by Method I. Sugar may be added as directed in Method I. A precaution which must be emphasized is the fact that unless the boiled milk is cooled to below 100°F. (about room temperature) before the lactic acid is added, the resultant curd is very tough.

## PRECIPITATED CASEIN—COTTAGE CHEESE

Precipitated casein is frequently ordered in the treatment of diarrhoea in infants and children. It may be fed the infant mixed with breast milk (which the mother has expressed) or with ordinary cow's milk mixtures. This casein may be precipitated in several ways. Following is a comparison of the lactic acid method with other methods.

- 1. Cottage cheese can be made by allowing either skimmed or whole milk to become sour. Heat slowly to 100°F. or until the whey begins to separate from the curd. Pour it into a fine strainer or a gauze bag (3 or 4 thicknesses of gauze) to drain off the whey. Add salt, to taste, to the curd.
- 2. Casein may be precipitated by the use of liquid rennet or essence of pepsin as in making protein milk by

<sup>1 &</sup>quot;Artificial Feeding of Athreptic Infants,"
—Wm. McKim Marriot, M.D., Journal American Medical Association, October 18, 1919.

Method I. Use either raw skimmed or whole milk. Heat to 100° F. and add 10 to 15 cc. essence of pepsin or liquid rennet and let it stand at 100° F. until it coagulates (about one-half hour). Pour into gauze bag (three or four thicknesses of gauze) to drain off the whey. Add salt, to taste, to the curd. (Liquid rennet or essence of pepsin will act only on raw milk; that is, milk which has been neither pasteurized nor boiled.)

3. Casein may be precipitated by the

use of chemically pure lactic acid as in making protein milk by Method II. Use either skimmed or whole milk. Boil it two minutes, stirring constantly; cool to below 100°F. and add 5-10 cc. or about one teaspoon of lactic acid to a quart of milk. The curd is precipitated at once. Pour it into a fine wire strainer to drain off the whey. Add salt, to taste, to the curd. This method is advantageous because the curd is sterile, since it is made of boiled milk.

#### THE PATIENT'S COMFORT 1

By Afina S. DeGraaf, R.N.

New York

COMFORT is needed to bring the so much desired rest for a patient. It might be well to call the nurse's attention again to the so all important part rest plays in the recovery of the sick. Much tact, much understanding, is needed to bring comfort to the different patients we meet, with their so different needs. I will not stop to explain the necessity of a well-made bed and cheerful room, but talk about the patient and his different needs.

Freedom of pain is first of all to be considered. With the aid of the attending physician much can be done by us to bring relief; our assurance that before very long pain will cease, our sympathy, characterized by firmness, will undoubtedly bring the desired result. Relief comes—the exhausted body needs rest. Now we cut off the stream of

external sensations by darkening the room and ensuring quiet, leave our patient, who very soon finds rest in several hours of peaceful sleeping.

Next to freedom of pain, ease is requested. Many a patient has been extremely uneasy for fear to disturb the nurses. It is up to us to express our desire to help, wishing sincerely to do so, creating in this manner a helpful atmosphere and inspire confidence. Unconsciously we carry with us the cheerfulness so sorely needed where the gloom of sickness comes. We nurses must also be firm believers in our patient's recovery, so that we inspire and invigorate hope and faith. We meet among our patients the cheerful ones, who give us courage—and how grateful we are for their existence—but most of our sick have times that they feel forlorn, desolate, and wretched, and we must act as stimulant and sometimes as sedative to bring comfort.

<sup>&</sup>lt;sup>1</sup>The writer of this paper was trained in Holland, which accounts for the quaint phraseology, the more forceful because unfamiliar.—Ed.